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Assessment of Altantic Salmon Stocks in Statistical Areas K and L, Western Newfoundland, 1983

by

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ABSTRACT

Using recreational catches as indices of spawning escapements, it was evident that spawning escapements were lower than in recent years, for rivers of both Areas K and L. Target spawning requirements were not met on many river systems, and several rivers require substantial increases in spawners to meet these escapements. Total returns in 1983 were below average returns (1978-82) as forecasted. The low abundance of grilse supports last year's projection for 1984, i.e., that there would be low returns of large salmon in 1984. The low abundance of spawners in all rivers in 1978 and 1979 contributed to the lower returns in 1983, and should result in lower returns in 1984 as well.

RESUME

Les prises récréatives, utilisées comme indices d'échappement en vue de la reproduction, indiquent clairement que le nombre de poissons qui ont échappé à la capture pour frayer a été inférieur à celui des récentes années, tant dans la zone K que dans la zone L. Dans plusieurs réseaux fluviaux, les niveaux cibles de reproducteurs n'ont pas été atteints, et bien des cours d'eau devront avoir des nombres de reproducteurs substantiellement plus élevés pour atteindre les niveaux visés. Tel que prédit, les retours de 1983 ont été inférieurs à la moyenne (1978-1982). La rareté des madeleineaux s'accorde avec les prévisions de l'an dernier pour 1984, à l'effet que les retours de grands saumons seraient faibles en 1984. Le nombre réduit de reproducteurs dans toutes les rivières en 1978 et 1979 a contribué à la faiblesse des retours en 1983, et il devrait en être de même en 1984 également.

INTRODUCTION

A detailed assessment of the Atlantic salmon stocks in Fisheries Statistical Areas K and L of Western Newfoundland was presented by Porter and Chadwick (1983). The impact of restrictions imposed in 1978 by Fisheries and Oceans on commercial and recreational fisheries (Tables 1 and 2) and the present status of stocks in Areas K and L, were evaluated. The assessment focused particular attention to concerns expressed earlier over declining commercial and recreational catches (especially large salmon) and apparent declines in egg depositions.

The purpose of this paper is to update and evaluate with previous years the catch and effort statistics from the commercial and recreational fisheries in 1983 and evaluate the status of stocks in light of management strategies imposed in 1983.

METHODS

Commercial landings of salmon for the 1983 season were initially obtained from Economic Services Branch, Corner Brook. These data were later updated with the historical landings for Areas K and L through data provided by DFO, St. John's and Porter and Chadwick (1983). The latter sources provided grilse/large salmon breakdowns of the catches.

Harvests of Atlantic salmon in the recreational fisheries are recorded by field personnel of the Protection and Regulations Branch. Salmon angling reports are completed in the field on a weekly basis and then submitted to Economic Services Branch, Corner Brook, who in turn, provide copies of each report to our Branch. The 1983 harvests were compiled and verified by us and values forwarded to DFO, St. John's. The 1983 harvest values were added to the tables of historical catches provided by DFO, St. John's and Porter and Chadwick (1983).

Target spawning requirements for each river system were provided by Porter and Chadwick (1983). These requirements were calculated using an egg deposition of 240 eggs per $100m^2$ of parr rearing area and an estimate of the number of eggs deposited per spawner (Table 3). An explanation of all the sources of data used and calculations made, is provided in Porter and Chadwick (1983).

Potential escapements to rivers of Areas K and L over the period 1978-82 have been presented (Porter and Chadwick 1983) (Table 21). Values presented in the above have been revised, by incorporating 1983 angling catches. Angling exploitation rates were not available for stocks in Areas K and L. Spawning escapements were calculated using exploitation rates of 20% and 40%; these are the minimum and maximum observed values for rivers in insular Newfoundland (Chadwick 1982). Thus the potential spawning escapements were based on two angling expoitation rates, 20% and 40%, representing maximum and minimum values of escapement, respectively and the angling mean catch

1978-83 (Table 22). Adjustments were made for the earlier season openings on the Grand Codroy, Robinsons and Humber Rivers in 1983. Salmon catches during the season extensions in 1983 were subtracted from the "additional fish released" columns (Table 21) for each of these rivers and the totals for Areas K and L, respectively (Table 21). Egg depositions during 1978-83 were calculated assuming that mean harvests in the recreational fishery during this period were proportional to spawning escapements (Chadwick 1982).

RESULTS

Area K

Total commercial landings of Atlantic salmon in 1983 were 20 t, up 15% over the amount landed in 1982 (17 t), and down 24% from the mean 1978-82 (26 t) (Table 4a). The landings for 1983 were composed of 6,178 grilse and 2,094 large salmon, down 35% and up 10% from the mean 1978-82 grilse (9,425) and large salmon (1,913) landings, respectively (Table 4b).

The commercial landings of grilse were the lowest recorded since 1978. Large salmon landings were the highest since 1980; a declining trend had been recorded since 1980. Overall landings in Area K have been declining since 1980.

Total recreational catch and effort in 1983 were 3,629 fish and 16,480 rod days (CPUE of 0.22), down 34% from the catch in 1982 (5,514 fish) and up 7% over the total effort recorded in 1982 (15,417 rod days). The 1983 CPUE was down 39% from that recorded in 1982 (0.36) (Table 6).

Compared to the mean catch 1978-82 (4,278 fish), the 1982 catch was down 15%, mean effort 1978-82 (12,176 rod days), the 1983 effort was up 35% and mean CPUE 1978-82 (0.35), the 1983 CPUE was down 37%.

Effort in 1983 was the highest recorded since 1977; an increasing trend since 1979. The grilse catch was the lowest since 1979; it had been increasing since 1978. The large salmon catch was the highest since 1980; it had been decreasing since 1980. Total recreational catch was the lowest since 1979; it had been increasing since 1979. CPUE was the lowest value ever recorded (since 1963); it has been decreasing since 1980.

The maximum estimate of spawning escapement in 1978-83 indicates a surplus of 9,168 fish and a minimum estimate a deficit of 1,257 fish, over the target number of 25,059 spawners (Table 22).

Harry's River

The angling season on Harry's River was the same as previous years (since 1978). Total recreational catch and effort in 1983 were 563 fish and 2,439 rod days (CPUE of 0.23), down 6% from the catch in 1982 (601 fish) and up 14% over effort recorded in 1982 (2,141 rod days). The CPUE was down 18% from that recorded in 1982 (0.28) (Table 7).

Compared to the mean catch 1978-82 (558 fish), the 1983 catch was up 0.9%, mean effort 1978-82 (1,944 rod days), the 1983 effort was up 26%, and mean CPUE 1978-82 (0.29), the 1983 CPUE was down 21%.

Effort in 1983 was the highest recorded since 1978 and has been steadily increasing since 1979. The total salmon catch was the lowest since 1980. CPUE has been declining since 1980.

The target number of spawners for Harry's River is 4,911 fish. The maximum estimate of spawning escapement indicates a surplus of 181 fish and the minimum estimate a deficit of 1,216 fish (Table 22).

Southwest and Bottom Broooks

The angling season on Southwest and Bottom Brooks was basically the same as previous years (since 1978). Total recreational catch and effort in 1983 were 639 fish and 2,052 rod days (CPUE of 0.31), down 17% from the catch in 1982 (773 fish) and up 18% over effort recorded in 1982 (1,738 rod days). The CPUE was down 30% from that recorded in 1982 (0.44) (Table 8).

Compared to the mean catch 1978-82 (485 fish), the 1983 catch was up 32%, mean effort 1978-82 (1,377 rod days), the 1983 effort was up 49%, and mean CPUE 1978-82 (0.35), the 1983 CPUE was down 11%.

Effort in 1983 was the highest recorded since 1977; it has been increasing since 1979. The total salmon catch was the lowest since 1980. CPUE was the lowest since 1979.

Both maximum and minimum estimates of spawning escapement in Southwest and Bottom Brooks in 1978-83 indicate surpluses (2,741 fish and 1,464 fish, respectively) over the target number of spawners (2,795 fish) (Table 22).

Little Barachois Brook

The angling season on Little Barachois Brook was the same as previous years (since 1978). Total recreational catch and effort in 1983 were 85 fish and 270 rod days (CPUE of 0.31), down 52% from the catch in 1982 (177 fish) and down 45% from the effort recorded in 1982 (489 rod days). The CPUE was down 14% from that recorded in 1982 (0.36) (Table 9).

Compared to the mean catch 1978-82 (129 fish), the 1983 catch was down 34%, mean effort 1978-82 (406 rod days), the 1983 effort was down 34%, and mean CPUE 1978-82 (0.32), the 1983 CPUE was down 3%.

Effort and total catch in 1983 were the lowest recorded since 1979, with the grilse catch one of the lowest ever recorded. CPUE was similar to that recorded in 1982.

The target number of spawners for Little Barachois Brook is 759 fish. The maximum estimate of spawning escapement indicates a surplus of 298 fish and the minimum estimate a deficit of 7 fish (Table 22).

Flat Bay Brook

The angling season on Flat Bay Brook was the same as that allowed 1981-82; i.e., closing on 31 August, as opposed to 20 July (1976-80). Total recreational catch and effort in 1983 were 315 fish and 1,123 rod days (CPUE of 0.28), down 32% from the catch in 1982 (460 fish) and down 17% from the effort recorded in 1982 (1,357 rod days). The CPUE was down 18% from that recorded in 1982 (0.34) (Table 10).

Compared to the mean catch 1978-82 (331 fish), the 1983 catch was down 5%, mean effort 1978-82 (878 rod days), the 1983 effort was up 28%, and mean CPUE 1978-82 (0.38), the 1983 CPUE was down 26%.

Effort in 1983 was the lowest recorded since the season extension. Grilse and large salmon catches were the lowest since 1979; the large salmon catch was the second lowest catch ever recorded (since 1963). CPUE was the lowest recorded since 1977, a decline since 1980.

Both maximum and minimum estimates of spawning escapement for Flat Bay Brook indicate deficits (263 fish and 1,083 fish, respectively) from the target number of spawners (2,904) (Table 22).

Fischells Brook

The angling season on Fischells Brook was basically the same as previous years (since 1978). Total recreational catch and effort in 1983 were 135 fish and 377 rod days (CPUE of 0.36), down 63% from the catch in 1982 and down 42% from the effort recorded in 1982 (651 rod days). The CPUE was down 36% from that recorded in 1982 (0.56) (Table 11).

Compared to the mean catch 1978-82 (233 fish), the 1983 catch was down 42%, mean effort1978-82 (392 rod days), the 1983 effort was down 4%, and mean CPUE 1978-82 (0.59), the 1983 CPUE was down 39%.

Effort in 1983 was the lowest recorded since 1980. Total catch was the lowest since 1979; the large salmon catch the same as 1982, i.e., the second lowest catch on record (since 1953). CPUE was the lowest recorded since 1974.

Both maximum and minimum estimates of spawning escapement for Fischells Brook indicate deficits (332 fish and 874 fish, respectively) from the target number of spawners (2,137 fish) (Table 22).

Robinsons River

The angling season on Robinsons River opened earlier than previous years (since 1978), opening on 10 June, as opposed to 20 June of previous years. Total recreational catch and effort in 1983 were 488 fish and 2,580 rod days (CPUE of 0.19), down 48% from the catch in 1982 (946 fish) and up 57% over the effort recorded in 1982 (1,648 rod days). The CPUE was down 67% from that recorded in 1982 (0.57) (Table 12).

Compared to the mean catch 1978-82 (711 fish), the 1983 catch was down 31%, mean effort 1978-82 (1,237 rod days), the 1983 effort was up 109%, and mean CPUE 1978-82 (0.57), the 1983 CPUE was down 67%.

Effort in 1983 was the highest ever recorded (since 1953). The grilse catch was the lowest since 1978, and the large salmon catch the highest since 1964. Overall total catch was the lowest recorded since 1978. CPUE was the lowest ever recorded (since 1953).

Both maximum and minimum estimates of spawning escapement for Robinsons River indicate surpluses (2,232 fish and 547 fish, respectively) over the target number of spawners (1,752 fish) (Table 22).

Barachois Brook

The angling season on Barachois Brook was basically the same as previous years (since 1978). Total recreational catch and effort in 1983 were 85 fish and 292 rod days (CPUE of 0.29), down 39% from the catch in 1982 (139 fish) and down 7% from the effort recorded in 1982 (313 rod days). The CPUE was down 34% from that recorded in 1982 (0.44) (Table 13).

Compared to the mean catch 1978-82 (189 fish), the 1983 catch was down 55%, mean effort 1978-82 (407 rod days), the 1983 effort was down 28%, and mean CPUE 1978-82 (0.46), the 1983 CPUE was down 37%.

Effort in 1983 was the lowest recorded since 1978, a decline since 1980. The grilse catch was the lowest recorded since 1978, the third lowest catch ever recorded (since 1953). The large salmon catch was the lowest on record (since 1953), a decline since 1980. The total catch was the lowest recorded since 1959, i.e., one of the lowest catches ever recorded (since 1953). CPUE was the lowest ever recorded (since 1953), a decline since 1980.

Both maximum and minimum estimates of spawning escapement for Barachois Brook indicate surpluses (1,161 fish and 734 fish, respectively) over the target number of spawners (1,350 fish) (Table 22).

Crabbes River

The angling season on Crabbes River was basically the same as previous years (since 1978). Total recreational catch and effort in 1983 were 143 fish and 758 rod days (CPUE of 0.19), down 78% from the catch in 1982 (636 fish) and down 33% from the effort recorded in 1982 (1,135 rod days). The CPUE was down 66% from that recorded in 1982 (0.56) (Table 14).

Compared to the mean catch 1978-82 (420 fish), the 1983 catch was down 66%, mean effort 1978-82 (870 rod days), the 1983 effort was down 13%, and mean CPUE 1978-82 (0.48), the 1983 CPUE was down 60%.

Effort in 1983 was the lowest recorded since 1979. The grilse catch was the lowest since 1955, the large salmon catch the lowest since 1953, the second lowest on record. CPUE was the lowest ever recorded (since 1953), after an increasing trend since 1978.

The target number of spawners for Crabbes River is 2,345 fish. The maximum estimate of spawning escapement indicates a surplus of 798 fish and the minimum estimate a deficit of 137 fish (Table 22).

Grand Codroy River

The angling season on the Grand Codroy River opened earlier than previous years (since 1978), opening on 10 June, as opposed to 20 June of previous years. Total recreational catch and effort in 1983 were 1,086 fish and 5,959 rod days (CPUE of 0.18), down 17% from the catch in 1982 (1,312 fish) and up 12% over the effort recorded in 1982 (5,300 rod days). The CPUE was down 28% from that recorded in 1982 (0.25) (Table 15).

Compared to the mean catch 1978-82 (1,140 fish), the 1983 catch was down 5%, mean effort 1978-82 (4,155 rod days), the 1983 effort was up 43%, and mean CPUE 1978-82 (0.27), the 1983 CPUE was down 33%.

Effort in 1983 was the highest ever recorded (since 1953). The grilse catch was the lowest recorded since 1978, the large salmon catch the highest since 1980 - total catch the lowest recorded since 1978. CPUE was the lowest ever recorded (since 1953).

Both maximum and mininium estimates of spawning escapement for Grand Codroy River indicate surpluses (3,804 fish and 977 fish, respectively) over the target number of spawners (3,511 fish) (Table 22).

Little Codroy River

The angling season on the Little Codroy River was the same as previous years (since 1978). Total recreational catch and effort in 1983 were 61 fish and 266 rod days (CPUE of 0.23), down 27% from the catch in 1982 (83 fish) and down 10% from the effort recorded in 1982 (294 rod days). The CPUE was down 18% from that recorded in 1982 (0.28) (Table 16).

Compared to the mean catch 1978-82 (70 fish), the 1983 catch was down 13%, mean effort 1978-82 (301 rod days), the 1983 effort was down 12%, and mean CPUE 1978-82 (0.23), the 1983 CPUE was the same.

Effort in 1983 was the lowest recorded since 1980. Total catch the lowest since 1980. CPUE was the lowest recorded since 1980, after an increasing trend since 1980.

Both maximum and minimum estimates of spawning escapement for the Little Codroy River indicate surpluses (285 fish and 115 fish, respectively) over the target number of spawners (463 fish) (Table 22).

Area L

Total commercial landings of Atlantic salmon in 1983 were 13 t, down 7% from the amount landed in 1982 (14 t) and down the same amount from the mean 1978-82 (14t) (Table 5a). The landings for 1983 were composed of 4,701 grilse and 821 large salmon, down 7% and 8% from the mean 1978-82 grilse (5,071) and large salmon (895) landings, respectively (Table 5b).

The commercial landings of grilse were down from 1982, but are still higher than levels recorded in the late 1970's. Large salmon landings were the highest since 1980; and increasing trend has been recorded since 1981. Overall landings in Area L were down from 1982, but are still higher than levels recorded in the late 1970's.

Total recreational catch and effort in 1983 were 3,318 fish and 8,993 rod days (CPUE of 0.37), down 29% from the catch recorded in 1982 (4,647 fish) and down 9% from the effort recorded in 1982 (9,829 rod days). The 1983 CPUE was down 21% from that recorded in 1982 (0.47) (Table 17).

Compared to the mean catch 1978-82 (3,981 fish), the 1983 catch was down 17%, mean effort 1978-82 (9,118 rod days), the 1983 effort was down 1%, and mean CPUE 1978-82 (0.44), the 1983 CPUE was down 16%.

Effort in 1983 was the lowest recorded since 1980, it has been increasing since 1977. The grilse catch was the lowest since 1978, it had been increasing since 1977. The large salmon catch was the lowest since 1979, the third lowest catch ever recorded (since 1953), it has been declining since 1980. CPUE was the same as that recorded in 1978, it had been increasing since 1977.

The maximum estimate of spawning escapement in 1978-83 indicates a deficit of 6,516 fish and the minimum estimate a deficit of 14,851 fish, from the target number of 24,682 spawners (Table 22).

Humber River

The angling season on the Humber River opened earlier than previous years (since 1978), opening on 10 June, as opposed to 20 June of previous years. Total recreational catch and effort in 1983 were 3,157 fish and 7,746 rod days (CPUE of 0.41), down 28% from the catch recorded in 1982 (4,382 fish) and down 11% from the effort recorded in 1982 (8,737 rod days). The CPUE was down 18% from that recorded in 1982 (0.50) (Table 18).

Compared to the mean catch 1978-82 (3,752 fish), the 1983 catch was down 16%, mean effort 1978-82 (8,265 rod days), the 1983 effort was down 6%, and mean CPUE 1978-82 (0.45), the 1983 CPUE was down 9%.

Effort in 1983 was the lowest recorded since 1978. Grilse and large salmon catches were the lowest since 1978 and 1979, respectively; the large salmon catch was one of the lowest ever recorded (since 1953). CPUE was the lowest recorded since 1978.

Both maximum and minimum estimates of spawning escapement for the Humber River incicate deficits (873 fish and 10,005 fish, respectively) from the target number of spawners (18,452 fish) (Table 22).

Serpentine River

The angling season on the Serpentine River was the same as previous years (since 1978). Total recreational catch and effort in 1983 were 86 fish and 470 rod days (CPUE of 0.18), down 54% from the catch in 1982 (187 fish) and down 18% from the effort recorded in 1982 (576 rod days). The CPUE was down 46% from that recorded in 1982 (0.33) (Table 19).

Compared to the mean catch 1978-82 (189 fish), the 1983 catch was down 55%, mean effort 1978-82 (473 rod days), the 1983 effort was down 0.6%, and mean CPUE 1978-82 (0.40), the 1983 CPUE was down 55%.

Effort in 1983 was the second highest recorded value since 1978. Grilse and large salmon catches were the lowest since 1979; the large salmon catch was one of the lowest ever recorded (since 1953). CPUE was the lowest recorded since 1975.

Both maximum and minimum estimates of spawning escapement for the Serpentine River indicate deficits (1,272 fish and 1,702 fish, respectively) from the target number of spawners (2,233 fish) (Table 22).

Fox Island River

The angling season on Fox Island River was basically the same as previous years (since 1981); the river was closed to angling 1976-80. Total recreational catch and effort in 1983 were 33 fish and 204 rod days (CPUE of 0.16), down 35% from the catch in 1982 (51 fish) and up 9% over the effort recorded in 1982 (188 rod days). The CPUE was down 41% from that recorded in 1982 (0.27) (Table 20).

Compared to the mean catch 1981-82 (58 fish), the 1983 catch was down 43%, mean effort 1981-82 (176 rod days), the 1983 effort was up 16%, and mean CPUE 1981-82 (0.33), the 1983 CPUE was down 52%.

Effort in 1983 was the highest recorded since 1981 (when angling was re-opened after a five year closure), an increasing trend since 1981. Total catch was the lowest since 1981, a declining trend since 1981. CPUE was the lowest recorded since 1981, a declining trend since 1981; the 1983 value is equal to that recorded in 1975.

Both maximum and minimum estimates of spawning escapement for Fox Island River indicate deficits (254 fish and 376 fish, respectively) from the target number of spawners (577 fish) (Table 22).

DISCUSSION

Results recorded in 1983 did little to provide a more optimistic picture regarding future production and escapement to the Western Newfoundland Rivers of Statistical Areas K and L, over that presented earlier by Porter and Chadwick (1983). Using recreational catches as indices of spawning escapements, it was evident that spawning escapements were lower than in recent years, for rivers in both Areas K and L. Target spawning requirements were not met on many river systems, and several rivers require substantial increases in spawners to meet these escapements.

The total returns in 1983 were below average returns (1978-82) as forecasted. The low abundance of grilse in Areas K and L supports last year's projection for 1984, i.e., that there would be low returns of large salmon in 1984. In 1978 and 1979 the abundance of spawners was low in all river systems. This produced the lower returns in 1983 and should result in lower returns as well in 1984. In addition, recreational fishery effort has increased, which has increased catch and possibly reduced some of the benefits which should have accrued to the spawning escapement due to season restrictions. No mechanisms are in place to control recreational fishery effort, thence catch, in this fishery.

Recommendations for 1984

1. The following rivers should have a reduction in catch and effort in 1984.

Area K: Little Barachois Brook, Flat Bay Brook, and Fischells Brook.

Area L: Humber River, and Serpentine River.

These rivers exhibit deficit spawning escapements and should have a reduction in catch in 1984 to contribute to improved spawning escapements. The extended angling season on the Humber River in 1983 should be rolled back in 1984 to the previously allowed season, to allow increased escapement of large salmon.

2. The following rivers would benefit from a reduction in catch and effort in 1984:

Area K; Harry's River, Robinsons River, Crabbes River, and Grand Codroy River.

Area L: Fox Island River.

These rivers exhibit surplus spawning escapements at present (except Fox Island River), however, if the present angling exploitation is greater

than 20%, deficit spawning escapements could exist. The rivers would benefit from reduced harvests in 1984. The extended angling seasons on Grand Codroy and Robinson's Rivers in 1983 should be rolled back in 1984 to the previously allowed seasons, to allow increased escapement of large salmon.

3. The status quo (at least) should be maintained on the following rivers in 1984.

Area K; Southwest and Bottom Brooks, Barachois Brook and Little Codroy River.

These rivers exhibit surplus spawning escapements at present. Status quo, at least, should be maintained on harvests in 1984, as no increases in runs to these rivers are predicted.

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Table 1

Summary of season changes in commercial and recreational fisheries of Areas K and L.

	Old (Before 1978)	New (1978-1982)	1983
Commercial			
Area K	15 May-31 Dec.	1 June-10 July	1 June-10 July
Area L	15 May-31 Dec.	1 June-10 July	1 June-10 July
Recreational			
Lt. Codroy	24 May-15 Sept.	1 July-15 Aug.	1 July-15 Aug.
Gd. Codroy	" "	20 June-31 Aug.	.10 June-31 Aug.
Highlands	" "	No season	Closed
Crabbes	" "	20 June-31 Aug.	18 June-31 Aug.
Barachois	" "	20 June-31 Aug.	18 June-31 Aug.
Robinsons	" "	20 June-31 Aug.	10 June-31 Aug.
Fischells	" "	20 June-31 Aug.	18 June-31 Aug.
Flat Bay	" "	■20 June-20 July	18 June-31 Aug.
Lt. Barachois	" "	1 July-15 Aug.	1 July-15 Aug.
Southwest	" "	*20 June-31 Aug.	18 June-31 Aug.
Harry's	" "	1 July-15 Aug.	1 July-15 Aug.
Fox Island	" "	**4 July-17 July	1 July-16 July
Serpentine	" "	1 July-31 Aug.	1 July-31 Aug.
Cooks	" "	No season	Closed
Humber	" "	■■20 June-31 Aug.	..10 June-31 Aug.
Hughes	" "	No season	Closed

■ 20 June-20 July 1976-80; 20 June-31 Aug. 1981-82

* 15 June-31 Aug. in 1979

** No Season 1976-80

■■ 10 June-31 Aug. 1981-82 for Upper Humber; 20 June-7 Sept. 1980 for Lower Humber

. Closed July 7-12

.. Closed July 7-13

Table 2

A summary of sections closed to fishing in rivers of Newfoundland

River name	Section closed
Grand Codroy River to South Branch	Trans Canada Highway to source
Crabbes River	12 mile pool to source
Barachois Brook	Mine pool (Mile 14) to source
Robinsons River	Chatter Pool (Mile 16) to 25 yds. above falls at Mile 19
Fischells Brook	Big Steady (Mile 10) to 25 yds. above falls at Mile 18
Little Barachois Brook	Old Logger's School (Mile 19) to source
Southwest Brook (St. George's Bay)	Mouth of John's Brook to source
Harry's River	Mouth of Harry's River to below Sandbank Pool
Spruce Brook	Mouth of Spruce Brook to source
Pinch Gut Lake	All tributaries of Pinch Gut Lake
Serpentine River	All tributaries of Serpentine Lake including Serpentine River upstream from Serpentine Lake
Humber River	From a line drawn from Lundrigan's Wharf to Wild Cove Point upstream to Ballams Bridge
Adies Lake	All tributaries of Adies Lake
Portland Creek (Southwest Feeder)	From falls upstream from Fisheries Cabin to source
Little Brook Ponds (Northern Peninsula)	Mouth to 1st. Pond
West River (St. Barbe)	Counting fence to 25 yds. above falls.
Exploits River (Great Rattling Bk)	From fishway at Mile 3.0 to source
Bellevue River	Cabot Highway to Trans Canada Highway
Northwest River (Trepassey)	5 yds. below the falls called Ladder Falls to 25 yds. above
Branch River (St. Mary's Bay)	The Flats (beginning inside the gut and extending upstream 1/2 mile.)

Table 3

Summary of rearing areas and biological characteristics used to calculate spawning requirements for rivers in Areas K and L. Optimal egg deposition was assumed to be 240 eggs per rearing unit (100 m^2). Fecundity was assumed to be 1540 eggs per kg.

River	Rearing area (100m^2)	Grilse			Lg. Salmon			Required spawners
		% grilse	% female	Mean weight (kg)	% salmon	% female	Mean weight (kg)	
Lt. Codroy	3,890	66	14	1.6	34	67	5.1	463
Gt. Codroy	25,963	86	57	1.4	14	+	+	3,511
Highlands	4,980	66	14*	1.4	34	67*	5.1*	601
Crabbes	18,429	76	40	1.4	24	+	+	2,345
Barachois	8,395	86	45	1.3	14	+	+	1,350
Robinsons	13,491	87	63	1.4	13	+	+	1,752
Fischells	13,661	84	46+	1.2	16	+	+	2,137
Flat Bay	16,012	92	46+	1.4	8	+	+	2,904
Lt. Barachois	7,104	88	86	1.4	12	+	+	759
Southwest	18,970	82	43	1.3	18	+	+	2,795
Harry's	26,394	93	50	1.3	7	+	+	4,911
Other	10,016							1,530
Area K	167,305	86	46	1.4	14	90	3.7	25,059
Fox Island	6,558	58	46+	1.4+	42	+	+	577
Serpentine	17,799	85	22	1.9	15	+	+	2,233
Cooks	1,474	100	46+	1.4+	0	+	+	357
Humber	115,307	97	53	1.7	3	+	+	18,452
Hughes	1,221	91	46+	1.4+	9	+	+	215
Other	13,241							2,848
Area L	155,600	97	46+	1.4+	3	90	3.7	24,682

* Values from Lt. Codroy were used.

\+ Mean values from Area K.

Table 4a

Commercial landings of Atlantic salmon and licenced fishing gear in Statistical Area K, 1952 to 1983. A gear unit is 50 fathoms of gill net. The landings in 1974 to 1977 during the period June 1 to July 10 are shown in parentheses.

Year	Licenced effort (gear units)	Salmon > 2.7 kg (mt)	Salmon < 2.7 kg (mt)	Total (mt)	Catch per licenced gear unit (mt)
1952				21	
1953				40	
1954				31	
1955				39	
1956				33	
1957				43	
1958				56	
1959				48	
1960				49	
1961				50	
1962				38	
1963				44	
1964				35	
1965				42	
1966				46	
1967				56	
1968				29	
1969	218	13	22	35	0.16
1970	226	49	10	59	0.26
1971	337	21	7	28	0.08
1972	260	18	15	33	0.13
1973	365	12	33	45	0.12
1974	395	16(9)	15(12)	31(21)	0.08
1975	574	11(7)	9(8)	20(15)	0.03
1976	501	17(13)	21(19)	38(32)	0.08
1977	467	22(17)	19(15)	41(32)	0.09
1978	456	11	12	23	0.05
1979	455	6	17	23	0.05
1980	425	16	24	40	0.09
1981	403	7	19	26	0.06
1982	338	4	13	17	0.05
1983	418	9	11	20	0.05
Mean					
1973-77	460	15.6	19.5	35.0	0.08
S.D.	84	4.4	10.3	9.8	
1974-77*	484	11.5	13.5	25.0	
S.D.	74	4.4	4.7	8.4	
1978-82	415	8.8	17.0	25.8	0.06
S.D.	49	5.5	5.5	8.6	

* with season from June 1 to July 10.

Table 4b

Commercial landings of Atlantic salmon and licenced fishing gear in Statistical Area K, 1969 to 1983.

STATISTICAL AREA: K

YEAR	EFFORT GEAR UNITS	GRILSE WEIGHT	GRILSE NUMBER	SALMON WEIGHT	SALMON NUMBER	TOTAL WEIGHT	TOTAL NUMBER	CUE	PERCENT GRILSE(W)	PERCENT GRILSE(N)
1969	218	22	11990	13	2709	35	14699	0.16	62.86	81.57
1970	226	11	5865	49	9738	60	15603	0.27	18.33	37.59
1971	337	7	3756	21	4185	28	7941	0.08	25.00	47.30
1972	260	15	8202	18	3615	33	11817	0.13	45.45	69.41
1973	369	33	18137	12	2366	45	20503	0.12	73.33	88.46
1974	389	17	9934	15	3263	32	13197	0.08	53.13	75.27
1975	614	12	6529	7	1400	19	7929	0.03	63.16	82.34
1976	509	21	10474	16	3680	37	14154	0.07	56.76	74.00
1977	467	15	8530	26	5534	41	14064	0.09	36.59	60.65
1978	456	10	6495	13	2894	23	9389	0.05	43.48	69.18
1979	455	19	10242	4	868	23	11110	0.05	82.61	92.19
1980	426	24	11387	16	3439	40	14826	0.09	60.00	76.80
1981	403	19	11097	7	1573	26	12670	0.06	73.08	87.58
1982	364	13	7902	4	851	17	8753	0.04	76.47	90.28
1983	418	11	6178	9	2094	20	8272	0.05	55.00	74.69
MEANS AND STANDARD DEVIATIONS:										
MEAN:	392.36	17.00	9324.29	15.71	3289.64	32.71	12649.21	* 0.08	*51.97	*73.71
S.D.:	110.08	6.73	3479.69	11.53	2281.59	11.65	3442.26	* 0.01	* 6.16	*10.55

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS AND STANDARD DEVIATIONS BASED ON YEARS 1969-1982. (IE; 1983 EXCLUDED).

Table 5a

Commercial landings of Atlantic salmon and licenced fishing gear in Statistical Area L, 1952 to 1983. A gear unit is 50 fathoms of gill net. The landings in 1974 to 1977 during the period June 1 to July 10 are shown in parentheses.

Year	Licenced effort (gear units)	Salmon > 2.7 kg (mt)	Salmon < 2.7 kg (mt)	Total (mt)	Catch per licenced gear unit (mt)
1952				20	
1953				22	
1954				33	
1955				6	
1956				20	
1957				-	
1958				28	
1959				26	
1960				25	
1961				13	
1962				17	
1963				58	
1964				26	
1965				35	
1966				43	
1967				28	
1968				11	
1969	221	5	9	14	0.06
1970	153	3	-13	16	0.11
1971	248	1	2	3	0.01
1972	258	3	9	12	0.05
1973	277	3	9	12	0.04
1974	198	7(5)	4(3)	11(8)	0.06
1975	412	4(4)	5(4)	9(8)	0.01
1976	301	4(3)	3(3)	7(6)	0.03
1977	270	7(5)	5(4)	12(9)	0.05
1978	264	5	5	10	0.04
1979	247	2	6	9	0.04
1980	255	9	16	25	0.10
1981	253	4	8	12	0.05
1982	196	4	10	14	0.07
1983	259	4	9	13	0.05
Mean					
1973-77	292	5	5	10.2	.03
S.D.	78	1.9	2.3	2.2	
1974-77*	295	4	4	8	
S.D.	89	1.9	.6	1.3	
1978-82	243	4.8	9.0	14.0	.06
S.D.	27	2.9	3.9	6.4	

* with season from June to July 10.

Table 5b

Commercial landings of Atlantic salmon and licenced fishing gear in Statistical Area L, 1969 to 1983.

STATISTICAL AREA: L

YEAR	EFFORT GEAR UNITS	GRILSE WEIGHT	GRILSE NUMBER	SALMON WEIGHT	SALMON NUMBER	TOTAL WEIGHT	TOTAL NUMBER	CUE	PERCENT GRILSE(W)	PERCENT GRILSE(N)
1969	221	9	4944	5	945	14	5889	0.06	64.29	83.95
1970	153	13	7022	3	676	16	7698	0.10	81.25	91.22
1971	248	2	1259	1	116	3	1375	0.01	66.67	91.56
1972	258	10	5272	3	532	13	5804	0.05	76.92	90.83
1973	277	9	4875	3	560	12	5435	0.04	75.00	89.70
1974	198	8	4137	3	554	11	4691	0.06	72.73	88.19
1975	366	6	2882	3	694	9	3576	0.02	66.67	80.59
1976	327	6	2909	2	397	8	3306	0.02	75.00	87.99
1977	270	5	2377	7	1421	12	3798	0.04	41.67	62.59
1978	264	6	3557	4	891	10	4448	0.04	60.00	79.97
1979	250	8	3987	1	288	9	4275	0.04	88.89	93.26
1980	255	16	8113	9	1818	25	9931	0.10	64.00	81.69
1981	253	8	4230	3	687	11	4917	0.04	72.73	86.03
1982	214	10	5467	4	789	14	6255	0.07	71.43	87.40
1983	259	9	4701	4	821	13	5522	0.05	69.23	85.13
MEANS AND STANDARD DEVIATIONS:										
MEAN:	253.86	8.29	4359.36	3.64	740.57	11.93	5099.86	* 0.05	*69.46	*85.48
S.D.:	51.78	3.45	1808.60	2.17	440.60	4.92	2058.21	* 0.01	* 2.98	*10.87

NOTE: FLAGGED VALUES INDICATE CALCULATIONS OBTAINED USING RATIO ESTIMATORS

NOTE: MEANS AND STANDARD DEVIATIONS BASED ON YEARS 1969-1982. (IE; 1983 EXCLUDED).

Table 6

Sports harvest for Atlantic salmon in Area K, 1953-83
STATISTICAL AREA: K

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	8040	3118	1066	4184	0.52	.
1954	3994	1578	670	2248	0.56	82
1955	5696	2126	617	2743	0.48	72
1956	8213	3187	1166	4353	0.53	65
1957	8720	4580	1621	6201	0.71	66
1958	7699	3172	1551	4723	0.61	75
1959	8824	2664	928	3592	0.41	77
1960	8054	3935	603	4538	0.56	82
1961	10244	3930	967	4897	0.48	80
1962	12834	6485	1133	7618	0.59	78
1963	15743	8420	2240	10660	0.68	74
1964	16849	8956	1878	10834	0.64	82
1965	14721	6127	1544	7671	0.52	85
1966	11977	3648	1450	5098	0.43	81
1967	15534	5608	1577	7185	0.46	70
1968	15114	5615	987	6602	0.44	85
1969	16025	6987	1082	8069	0.50	84
1970	19612	6153	1049	7202	0.37	87
1971	18103	5339	660	5999	0.33	90
1972	15803	4218	871	5089	0.32	86
1973	19017	6430	1020	7450	0.39	81
1974	18946	4322	744	5066	0.27	90
1975	21678	5771	756	6527	0.30	85
1976	20964	5121	554	5675	0.27	91
1977	17209	4355	994	5349	0.31	84
1978	11084	2327	597	2924	0.26	88
1979	7751	2572	84	2656	0.34	97
1980	12316	4213	673	4886	0.40	79
1981	14311	4911	500	5411	0.38	89
1982	15417	5045	469	5514	0.36	91
1983	16480	3075	554	3629	0.22	90
MEANS STANDARD DEVIATIONS N'S:						
53-57	6932.6	2917.8	1028.0	3945.8	0.57	71
S.D.	2014.0	1150.8	409.0	1552.2	0.05	4
N	5	5	5	5	5	4
58-62	9531.0	4037.2	1036.4	5073.6	0.53	78
S.D.	2089.0	1470.4	345.9	1509.1	0.04	1
N	5	5	5	5	5	5
63-67	14964.8	6551.8	1737.8	8289.6	0.55	79
S.D.	1834.8	2166.4	323.3	2443.5	0.05	3
N	5	5	5	5	5	5
68-72	16931.4	5662.4	929.8	6592.2	0.39	86
S.D.	1867.9	1023.3	170.9	1136.3	0.03	1
N	5	5	5	5	5	5
73-77	19562.8	5199.8	813.6	6013.4	0.31	86
S.D.	1778.8	912.4	194.1	972.3	0.02	2
N	5	5	5	5	5	5
78-82	12175.8	3813.6	464.6	4278.2	0.35	89
S.D.	2994.0	1287.6	227.5	1382.5	0.02	2
N	5	5	5	5	5	5
69-82	16302.6	4840.3	718.1	5558.4	0.34	87
S.D.	3935.3	1325.7	276.4	1521.0	0.02	1
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 7

Sports harvest of Atlantic salmon in Harry's River, 1953-83

RIVER: HARRYS RIVER CODE: 41012000

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	3458	935	146	1081	0.31	.
1954	800	244	18	262	0.33	98
1955	1464	499	61	560	0.38	80
1956	2211	668	206	874	0.40	71
1957	1689	1418	493	1911	1.13	58
1958	537	984	218	1202	2.24	87
1959	1466	604	95	699	0.48	91
1960	302	603	91	694	2.30	87
1961	1676	734	119	853	0.51	84
1962	3316	1488	226	1714	0.52	76
1963	4354	2467	457	2924	0.67	77
1964	3933	2673	373	3046	0.77	87
1965	3338	1175	262	1437	0.43	91
1966	2113	620	316	936	0.44	79
1967	2630	706	248	954	0.36	71
1968	2640	863	85	948	0.36	89
1969	3360	1491	181	1672	0.50	83
1970	5288	1662	207	1869	0.35	88
1971	5146	1435	47	1482	0.29	97
1972	3632	782	32	814	0.22	98
1973	4748	1583	196	1779	0.37	80
1974	4218	941	34	975	0.23	98
1975	2180	704	16	720	0.33	98
1976	2893	902	40	942	0.33	95
1977	3853	1008	68	1076	0.28	93
1978	3142	713	65	778	0.25	94
1979	755	148	1	149	0.20	100
1980	1602	518	65	583	0.36	69
1981	2082	659	18	677	0.33	97
1982	2141	570	31	601	0.28	96
1983	2439	533	30	563	0.23	95
MEANS STANDARD DEVIATIONS N'S:						
53-57	1924.4	752.8	184.8	937.6	0.49	75
S.D.	995.7	448.9	187.1	626.7	0.15	11
N	5	5	5	5	5	4
58-62	1459.4	882.6	149.8	1032.4	0.71	85
S.D.	1192.1	372.4	66.8	433.4	0.19	2
N	5	5	5	5	5	5
63-67	3273.6	1528.2	331.2	1859.4	0.57	84
S.D.	917.5	976.9	85.9	1047.9	0.08	3
N	5	5	5	5	5	5
68-72	4013.2	1246.6	110.4	1357.0	0.34	92
S.D.	1158.2	397.1	79.3	458.0	0.04	3
N	5	5	5	5	5	5
73-77	3578.4	1027.6	70.8	1098.4	0.31	93
S.D.	1034.1	330.5	72.4	402.1	0.03	3
N	5	5	5	5	5	5
78-82	1944.4	521.6	36.0	557.6	0.29	94
S.D.	869.4	222.2	28.5	241.0	0.02	2
N	5	5	5	5	5	5
69-82	3217.1	936.9	71.5	1008.4	0.31	93
S.D.	1365.9	450.9	69.6	509.8	0.02	2
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 8

Sports harvest of Atlantic salmon in Southwest and Bottom Brooks, 1953-83.

RIVER: SOUTHWEST AND BOTTOM BROOKS CODE: 41011500

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	477	117	46	163	0.34	.
1954	193	48	76	124	0.64	61
1955	406	114	61	175	0.43	44
1956	335	120	37	157	0.47	75
1957	727	223	128	351	0.48	48
1958	173	265	78	343	1.98	74
1959	848	255	152	407	0.48	64
1960	266	603	11	614	2.31	96
1961	1304	307	144	451	0.35	81
1962	1088	597	65	662	0.61	83
1963	1484	736	291	1027	0.69	67
1964	2375	694	155	849	0.36	83
1965	1636	768	108	876	0.54	87
1966	1970	555	324	879	0.45	70
1967	2867	876	383	1259	0.44	59
1968	1696	527	87	614	0.36	91
1969	2188	866	28	894	0.41	95
1970	2056	604	125	729	0.35	87
1971	2145	419	150	569	0.27	80
1972	2613	554	152	706	0.27	73
1973	2837	895	165	1060	0.37	77
1974	2953	364	214	578	0.20	81
1975	6705	1606	254	1860	0.28	59
1976	5865	581	71	652	0.11	96
1977	3453	568	161	729	0.21	78
1978	1353	274	27	301	0.22	95
1979	844	180	6	186	0.22	98
1980	1157	426	46	472	0.41	80
1981	1792	659	34	693	0.39	93
1982	1738	741	32	773	0.44	95
1983	2052	614	25	639	0.31	97
MEANS STANDARD DEVIATIONS N'S:						
53-57	427.6	124.4	69.6	194.0	0.45	57
S.D.	197.6	62.7	35.9	89.8	0.04	6
N	5	5	5	5	5	4
58-62	735.8	405.4	90.0	495.4	0.67	79
S.D.	499.2	178.7	58.7	136.8	0.20	4
N	5	5	5	5	5	5
63-67	2066.4	725.8	252.2	978.0	0.47	73
S.D.	563.5	116.9	116.2	171.9	0.05	5
N	5	5	5	5	5	5
68-72	2139.6	594.0	108.4	702.4	0.33	86
S.D.	328.0	166.4	52.0	125.5	0.03	3
N	5	5	5	5	5	5
73-77	4362.6	802.8	173.0	975.8	0.22	82
S.D.	1794.8	487.5	68.7	527.5	0.04	6
N	5	5	5	5	5	5
78-82	1376.8	456.0	29.0	485.0	0.35	94
S.D.	398.6	241.2	14.6	249.8	0.05	2
N	5	5	5	5	5	5
69-82	2692.8	624.1	104.6	728.7	0.27	85
S.D.	1689.1	349.7	79.6	394.0	0.03	3
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 9

Sports harvest of Atlantic salmon in Little Barachois Brook, 1953-83.

RIVER: LITTLE BARACHOIS BROOK CODE: 41011100

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	115	68	29	97	0.84	.
1954	96	42	6	48	0.50	92
1955	204	57	3	60	0.29	93
1956	307	140	8	148	0.48	88
1957	226	131	12	143	0.63	92
1958	209	101	10	111	0.53	93
1959	247	44	22	66	0.27	82
1960	346	114	17	131	0.38	72
1961	361	136	7	143	0.40	94
1962	381	189	14	203	0.53	91
1963	357	222	9	231	0.65	95
1964	569	302	42	344	0.60	84
1965	690	253	23	276	0.40	93
1966	223	150	8	158	0.71	97
1967	253	125	4	129	0.51	97
1968	266	97	0	97	0.36	100
1969	142	59	0	59	0.42	100
1970	301	110	0	110	0.37	100
1971	337	172	4	176	0.52	96
1972	485	295	18	313	0.65	91
1973	621	230	35	265	0.43	89
1974	999	316	47	363	0.36	83
1975	756	256	27	283	0.37	92
1976	717	205	29	234	0.33	90
1977	932	249	37	286	0.31	85
1978	339	73	7	80	0.24	97
1979	165	37	0	37	0.22	100
1980	436	183	10	193	0.44	79
1981	602	151	7	158	0.26	96
1982	489	169	8	177	0.36	95
1983	270	84	1	85	0.31	99
MEANS STANDARD DEVIATIONS N'S:						
53-57	189.6	87.6	11.6	99.2	0.52	91
S.D.	86.1	44.8	10.3	46.0	0.08	1
N	5	5	5	5	5	4
58-62	308.8	116.8	14.0	130.8	0.42	88
S.D.	76.0	52.8	5.9	49.9	0.05	3
N	5	5	5	5	5	5
63-67	418.4	210.4	17.2	227.6	0.54	93
S.D.	203.6	72.9	15.6	87.3	0.06	3
N	5	5	5	5	5	5
68-72	306.2	146.6	4.4	151.0	0.49	96
S.D.	124.0	92.4	7.8	99.9	0.07	2
N	5	5	5	5	5	5
73-77	805.0	251.2	35.0	286.2	0.36	88
S.D.	156.3	41.3	7.9	47.7	0.02	2
N	5	5	5	5	5	5
78-82	406.2	122.6	6.4	129.0	0.32	96
S.D.	164.9	64.0	3.8	67.3	0.04	1
N	5	5	5	5	5	5
69-82	522.9	178.9	16.4	195.3	0.37	91
S.D.	263.5	96.8	15.8	100.2	0.03	1
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 10

Sports harvest of Atlantic salmon in Flat Bay Brook, 1953-83.

RIVER: FLAT BAY BROOK CODE: 41010800

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	900	666	119	785	0.87	.
1954	499	329	46	375	0.75	94
1955	864	431	33	464	0.54	91
1956	773	566	29	595	0.77	94
1957	884	718	19	737	0.83	97
1958	902	620	39	659	0.73	95
1959	613	334	18	352	0.57	97
1960	1559	1010	65	1075	0.69	84
1961	1176	764	35	799	0.68	97
1962	1200	1378	74	1452	1.21	91
1963	1515	1827	92	1919	1.27	94
1964	1657	1853	97	1950	1.18	95
1965	1658	778	175	953	0.57	91
1966	861	576	33	609	0.71	96
1967	1485	898	63	961	0.65	90
1968	1505	951	40	991	0.66	96
1969	1635	857	95	952	0.58	91
1970	3206	1496	115	1611	0.50	88
1971	2741	1019	80	1099	0.40	95
1972	2559	879	71	950	0.37	93
1973	2064	696	84	780	0.38	91
1974	2156	510	59	569	0.26	92
1975	2625	408	42	450	0.17	92
1976	1705	609	48	657	0.39	89
1977	1045	209	26	235	0.22	96
1978	537	140	12	152	0.28	95
1979	263	72	4	76	0.29	97
1980	932	445	26	471	0.51	73
1981	1299	457	39	496	0.38	92
1982	1357	427	33	460	0.34	93
1983	1123	308	7	315	0.28	98
MEANS STANDARD DEVIATIONS N'S:						
53-57	784.0	542.0	49.2	591.2	0.75	94
S.D.	166.7	161.7	40.2	174.5	0.06	1
N	5	5	5	5	5	4
58-62	1090.0	821.2	46.2	867.4	0.80	94
S.D.	354.4	395.8	22.9	417.9	0.12	2
N	5	5	5	5	5	5
63-67	1435.2	1186.4	92.0	1278.4	0.89	93
S.D.	330.7	607.7	53.0	615.7	0.15	1
N	5	5	5	5	5	5
68-72	2329.2	1040.4	80.2	1120.6	0.48	93
S.D.	733.6	262.5	28.0	280.8	0.05	1
N	5	5	5	5	5	5
73-77	1919.0	486.4	51.8	538.2	0.28	92
S.D.	588.5	188.8	21.6	208.1	0.05	1
N	5	5	5	5	5	5
78-82	877.6	308.2	22.8	331.0	0.38	92
S.D.	475.4	186.4	14.5	200.3	0.04	2
N	5	5	5	5	5	5
69-82	1723.1	587.4	52.4	639.9	0.37	92
S.D.	876.9	381.5	32.7	412.3	0.04	1
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 11

Sports harvest of Atlantic salmon in Fischells Brook,1953-83.

RIVER: FISCHELLS BROOK CODE: 40009600

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	211	97	38	135	0.64	.
1954	172	34	43	77	0.45	69
1955	215	32	45	77	0.36	43
1956	259	147	69	216	0.83	32
1957	441	182	78	260	0.59	65
1958	459	156	99	255	0.56	65
1959	407	144	31	175	0.43	83
1960	366	95	38	133	0.36	79
1961	582	193	72	265	0.46	57
1962	674	282	57	339	0.50	77
1963	943	425	120	545	0.58	70
1964	874	305	136	441	0.50	76
1965	624	202	84	286	0.46	78
1966	442	52	55	107	0.24	79
1967	612	355	40	395	0.65	57
1968	642	277	44	321	0.50	89
1969	718	416	77	493	0.69	78
1970	766	302	135	437	0.57	75
1971	582	239	27	266	0.46	92
1972	417	133	63	196	0.47	79
1973	952	401	81	482	0.51	62
1974	753	220	27	247	0.33	94
1975	522	184	21	205	0.39	91
1976	418	185	16	201	0.48	92
1977	468	245	66	311	0.66	74
1978	292	154	31	185	0.63	89
1979	168	67	0	67	0.40	100
1980	386	227	40	267	0.69	63
1981	463	272	11	283	0.61	95
1982	651	357	7	364	0.56	97
1983	377	128	7	135	0.36	98
MEANS STANDARD DEVIATIONS N'S:						
53-57	259.6	98.4	54.6	153.0	0.59	57
S.D.	106.0	66.9	17.7	82.6	0.07	8
N	5	5	5	5	5	4
58-62	497.6	174.0	59.4	233.4	0.47	72
S.D.	127.7	69.8	27.4	80.8	0.03	5
N	5	5	5	5	5	5
63-67	699.0	267.8	87.0	354.8	0.51	74
S.D.	205.8	145.4	41.0	166.9	0.05	2
N	5	5	5	5	5	5
68-72	625.0	273.4	69.2	342.6	0.55	82
S.D.	136.0	102.5	41.4	121.8	0.04	3
N	5	5	5	5	5	5
73-77	622.6	247.0	42.2	289.2	0.46	84
S.D.	224.4	89.8	29.3	116.5	0.05	6
N	5	5	5	5	5	5
78-82	392.0	215.4	17.8	233.2	0.59	92
S.D.	181.9	110.9	16.9	112.6	0.03	4
N	5	5	5	5	5	5
68-82	539.7	243.0	43.0	286.0	0.53	85
S.D.	210.7	100.3	37.3	121.9	0.03	3
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 12

Sports harvest of Atlantic salmon in Robinsons River,1953-83.

RIVER: ROBINSONS RIVER CODE: 40009200

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	874	489	152	641	0.73	.
1954	725	370	203	573	0.79	71
1955	754	363	106	469	0.62	78
1956	1482	588	199	787	0.53	65
1957	1822	796	178	974	0.53	77
1958	1772	360	298	658	0.37	73
1959	1615	488	98	586	0.36	79
1960	1726	760	117	877	0.51	81
1961	1481	732	166	898	0.61	82
1962	1438	1005	117	1122	0.78	86
1963	1823	1206	390	1596	0.88	72
1964	1551	935	282	1217	0.78	81
1965	1455	1021	200	1221	0.84	82
1966	1070	504	142	646	0.60	88
1967	1491	847	166	1013	0.68	75
1968	1805	805	147	952	0.53	85
1969	1040	567	73	640	0.62	92
1970	1037	519	80	599	0.58	88
1971	1171	373	57	430	0.37	90
1972	640	287	41	328	0.51	90
1973	1437	820	85	905	0.63	77
1974	1134	354	17	371	0.33	98
1975	1556	611	42	653	0.42	89
1976	1842	556	56	612	0.33	92
1977	1184	403	184	587	0.50	75
1978	671	235	68	303	0.45	86
1979	989	495	23	518	0.52	91
1980	1352	684	113	797	0.59	81
1981	1527	861	129	990	0.65	84
1982	1648	905	41	946	0.57	95
1983	2580	278	210	488	0.19	81
MEANS STANDARD DEVIATIONS N'S:						
53-57	1131.4	521.2	167.6	688.8	0.61	73
S.D.	493.4	179.5	40.0	196.8	0.05	3
N	5	5	5	5	5	4
58-62	1606.4	669.0	159.2	828.2	0.52	80
S.D.	146.5	251.7	81.6	212.8	0.07	3
N	5	5	5	5	5	5
63-67	1478.0	902.6	236.0	1138.6	0.77	80
S.D.	270.0	259.4	101.1	346.6	0.05	3
N	5	5	5	5	5	5
68-72	1138.6	510.2	79.6	589.8	0.52	89
S.D.	422.4	199.3	40.6	238.7	0.04	1
N	5	5	5	5	5	5
73-77	1430.6	548.8	76.8	625.6	0.44	87
S.D.	288.9	184.8	64.8	190.6	0.06	5
N	5	5	5	5	5	5
78-82	1237.4	636.0	74.8	710.8	0.57	88
S.D.	402.5	276.6	45.5	293.3	0.03	3
N	5	5	5	5	5	5
69-82	1230.6	547.9	72.1	619.9	0.50	88
S.D.	351.7	211.5	45.1	224.1	0.03	2
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 13

Sports harvest of Atlantic salmon in Barachois Brook, 1953-83.

RIVER: BARACHOIS BROOK CODE: 40009000

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	45	23	4	27	0.60	.
1954	66	33	14	47	0.71	52
1955	60	27	15	42	0.70	69
1956	183	228	70	298	1.63	28
1957	185	167	68	235	1.27	77
1958	237	109	87	196	0.83	66
1959	184	59	16	75	0.41	87
1960	179	86	15	101	0.56	80
1961	336	215	25	240	0.71	77
1962	404	236	47	283	0.70	82
1963	750	271	145	416	0.55	62
1964	839	342	99	441	0.53	73
1965	966	542	111	653	0.68	75
1966	507	187	90	277	0.55	86
1967	788	546	159	705	0.89	54
1968	878	613	124	737	0.84	81
1969	1343	766	154	920	0.69	80
1970	1300	372	69	441	0.34	92
1971	904	550	54	604	0.67	87
1972	1025	348	184	532	0.52	75
1973	1222	568	77	645	0.53	82
1974	894	257	70	327	0.37	89
1975	1129	510	117	627	0.56	69
1976	1572	526	46	572	0.36	92
1977	1218	534	56	590	0.48	90
1978	273	51	102	153	0.56	84
1979	342	124	0	124	0.36	100
1980	622	290	24	314	0.50	84
1981	487	210	3	213	0.44	99
1982	313	137	2	139	0.44	99
1983	292	84	1	85	0.29	99
MEANS STANDARD DEVIATIONS N'S:						
53-57	107.8	95.6	34.2	129.8	1.20	65
S.D.	70.0	95.6	32.1	127.0	0.20	12
N	5	5	5	5	5	4
58-62	268.0	141.0	38.0	179.0	0.67	77
S.D.	98.8	79.5	30.3	89.1	0.06	5
N	5	5	5	5	5	5
63-67	770.0	377.6	120.8	498.4	0.65	72
S.D.	168.1	161.5	29.9	177.3	0.07	6
N	5	5	5	5	5	5
68-72	1090.0	529.8	117.0	646.8	0.59	83
S.D.	219.0	174.0	55.2	187.2	0.09	3
N	5	5	5	5	5	5
73-77	1207.0	479.0	73.2	552.2	0.46	86
S.D.	243.7	125.9	27.3	129.2	0.04	4
N	5	5	5	5	5	5
78-82	407.4	162.4	26.2	188.6	0.46	90
S.D.	144.6	90.9	43.5	77.8	0.03	4
N	5	5	5	5	5	5
69-82	903.1	374.5	68.4	442.9	0.49	86
S.D.	427.7	207.7	55.8	237.9	0.04	2
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 14

Sports harvest of Atlantic salmon in Crabbes River, 1953-83.

RIVER: CRABBES BROOK CODE: 40008600

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	153	71	34	105	0.69	.
1954	157	116	51	167	1.06	58
1955	194	76	99	175	0.90	54
1956	747	180	219	399	0.53	26
1957	1278	331	311	642	0.50	37
1958	1088	134	274	408	0.38	55
1959	1142	236	184	420	0.37	42
1960	838	147	50	197	0.24	83
1961	1005	324	112	436	0.43	57
1962	1170	569	196	765	0.65	62
1963	1272	468	300	768	0.60	65
1964	1625	818	291	1109	0.68	62
1965	1252	430	242	672	0.54	77
1966	954	240	155	395	0.41	74
1967	1054	485	201	686	0.65	54
1968	1063	452	227	679	0.64	68
1969	1397	833	234	1067	0.76	66
1970	1324	303	150	453	0.34	85
1971	1026	310	85	395	0.38	78
1972	932	398	152	550	0.59	67
1973	830	333	106	439	0.53	79
1974	1010	294	98	392	0.39	77
1975	1641	270	90	360	0.22	77
1976	859	191	58	249	0.29	82
1977	859	217	126	343	0.40	60
1978	907	138	127	265	0.29	83
1979	501	229	14	243	0.49	91
1980	902	363	91	454	0.50	72
1981	905	389	115	504	0.56	76
1982	1135	561	75	636	0.56	84
1983	758	105	38	143	0.19	94
MEANS STANDARD DEVIATIONS N'S:						
53-57	505.8	154.8	142.8	297.6	0.59	39
S.D.	499.5	107.7	118.6	222.5	0.07	6
N	5	5	5	5	5	4
58-62	1048.6	282.0	163.2	445.2	0.42	59
S.D.	133.5	177.7	85.5	203.7	0.07	5
N	5	5	5	5	5	5
63-67	1231.4	488.2	237.8	726.0	0.59	68
S.D.	257.6	208.7	61.1	256.2	0.04	4
N	5	5	5	5	5	5
68-72	1148.4	459.2	169.6	628.8	0.55	74
S.D.	201.1	218.0	61.8	267.5	0.09	5
N	5	5	5	5	5	5
73-77	1039.8	261.0	95.6	356.6	0.34	76
S.D.	343.4	57.4	24.9	70.4	0.06	3
N	5	5	5	5	5	5
78-82	870.0	336.0	84.4	420.4	0.48	76
S.D.	229.1	161.9	44.3	166.0	0.05	4
N	5	5	5	5	5	5
69-82	1016.3	344.9	108.6	453.6	0.45	76
S.D.	282.6	174.9	51.1	209.7	0.05	2
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 15

Sports harvest of Atlantic salmon in Grand Codroy River, 1953-83.

RIVER: GRAND CODROY RIVER CODE: 40003300

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	1424	556	367	923	0.65	.
1954	1060	310	154	464	0.44	78
1955	1152	442	132	574	0.50	70
1956	1411	510	299	809	0.57	60
1957	1195	545	270	815	0.68	65
1958	1737	414	349	763	0.44	61
1959	1665	449	237	686	0.41	64
1960	1679	432	135	567	0.34	77
1961	2011	512	271	783	0.39	61
1962	2205	675	236	911	0.41	68
1963	2328	728	337	1065	0.46	67
1964	2465	985	332	1317	0.53	69
1965	2458	862	301	1163	0.47	77
1966	3051	678	301	979	0.32	74
1967	3260	688	238	926	0.28	74
1968	3988	925	222	1147	0.29	76
1969	3390	945	223	1188	0.35	81
1970	3447	627	137	764	0.22	88
1971	3243	732	120	852	0.26	84
1972	2637	468	120	588	0.22	86
1973	3468	825	143	968	0.28	77
1974	4144	991	149	1140	0.28	85
1975	3757	1126	123	1249	0.33	89
1976	4174	1205	132	1337	0.32	90
1977	3069	773	212	985	0.32	85
1978	3125	510	148	658	0.21	84
1979	3298	1135	30	1165	0.35	94
1980	4645	1032	250	1282	0.28	82
1981	4407	1148	133	1281	0.29	89
1982	5300	1112	200	1312	0.25	85
1983	5959	867	219	1086	0.18	84
MEANS STANDARD DEVIATIONS N'S:						
53-57	1248.4	472.6	244.4	717.0	0.57	68
S.D.	162.0	101.2	99.3	190.4	0.04	4
N	5	5	5	5	5	4
58-62	1859.4	496.4	245.6	742.0	0.40	66
S.D.	238.6	106.4	77.0	126.9	0.02	3
N	5	5	5	5	5	5
63-67	2712.4	788.2	301.8	1090.0	0.40	72
S.D.	414.8	132.3	39.4	155.5	0.05	2
N	5	5	5	5	5	5
68-72	3341.0	743.4	164.4	907.8	0.27	83
S.D.	484.1	207.1	53.5	255.8	0.02	2
N	5	5	5	5	5	5
73-77	3722.4	984.0	151.8	1135.8	0.31	86
S.D.	467.6	186.3	35.1	161.4	0.01	2
N	5	5	5	5	5	5
78-82	4155.0	987.4	152.2	1139.6	0.27	86
S.D.	923.3	270.6	82.4	275.0	0.02	2
N	5	5	5	5	5	5
69-82	3721.7	903.5	151.4	1054.9	0.28	85
S.D.	724.0	247.9	55.1	253.7	0.01	1
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 16

Sports harvest of Atlantic salmon in Little Codroy River, 1953-83.

RIVER: LITTLE CODROY RIVER CODE: 40001400

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	175	17	79	96	0.55	.
1954	93	14	25	39	0.42	40
1955	140	6	4	10	0.07	78
1956	101	2	6	8	0.08	50
1957	38	4	4	8	0.21	33
1958	57	3	9	12	0.21	31
1959	162	3	2	5	0.03	60
1960	111	1	0	1	0.01	100
1961	16	1	1	2	0.13	50
1962	76	6	1	7	0.09	50
1963	141	7	4	11	0.08	60
1964	323	9	12	21	0.07	37
1965	155	20	25	45	0.29	26
1966	197	19	10	29	0.15	67
1967	218	30	6	36	0.17	76
1968	150	50	0	50	0.33	100
1969	255	10	8	18	0.07	86
1970	381	42	11	53	0.14	48
1971	318	31	11	42	0.13	79
1972	451	38	28	66	0.15	53
1973	531	35	32	67	0.13	54
1974	316	43	13	56	0.18	73
1975	221	46	16	62	0.28	73
1976	522	126	50	176	0.34	48
1977	494	95	40	135	0.27	76
1978	273	29	10	39	0.14	90
1979	336	83	2	85	0.25	94
1980	227	35	8	43	0.19	91
1981	377	87	11	98	0.26	76
1982	294	43	40	83	0.28	69
1983	266	46	15	61	0.23	74
MEANS STANDARD DEVIATIONS N'S:						
53-57	109.4	8.6	23.6	32.2	0.29	50
S.D.	51.7	6.5	32.2	38.0	0.12	10
N	5	5	5	5	5	4
58-62	84.4	2.8	2.6	5.4	0.06	48
S.D.	55.3	2.0	3.6	4.4	0.03	13
N	5	5	5	5	5	5
63-67	206.8	17.0	11.4	28.4	0.14	52
S.D.	72.0	9.3	8.2	13.1	0.04	11
N	5	5	5	5	5	5
68-72	311.0	34.2	11.6	45.8	0.15	74
S.D.	115.8	15.2	10.2	17.8	0.02	9
N	5	5	5	5	5	5
73-77	416.8	69.0	30.2	99.2	0.24	66
S.D.	140.1	39.6	15.7	53.5	0.04	7
N	5	5	5	5	5	5
78-82	301.4	55.4	14.2	69.6	0.23	82
S.D.	57.7	27.5	14.8	26.8	0.02	6
N	5	5	5	5	5	5
69-82	356.9	53.1	20.0	73.1	0.20	73
S.D.	106.2	32.0	15.0	41.4	0.02	4
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 17

Sports harvest of Atlantic salmon in Area L, 1953-83.

STATISTICAL AREA: L

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	4075	1389	230	1619	0.40	.
1954	4595	994	196	1190	0.26	88
1955	2557	1534	193	1727	0.68	84
1956	7917	1419	283	1702	0.21	84
1957	3524	2201	293	2494	0.71	83
1958	4066	1919	410	2329	0.57	84
1959	4481	2207	379	2586	0.58	84
1960	4385	2159	324	2483	0.57	87
1961	4541	2047	260	2307	0.51	89
1962	5393	2939	336	3275	0.61	86
1963	6518	4240	299	4539	0.70	91
1964	9798	5390	650	6040	0.62	87
1965	8193	4388	385	4773	0.58	93
1966	9992	4428	433	4861	0.49	91
1967	6685	2501	267	2768	0.41	94
1968	7207	2750	162	2912	0.40	94
1969	12805	5160	542	5702	0.45	84
1970	14848	3586	594	4180	0.28	90
1971	10925	4183	385	4568	0.42	90
1972	11811	4183	232	4415	0.37	95
1973	11938	3838	372	4210	0.35	92
1974	10367	2867	172	3039	0.29	96
1975	10575	6232	130	6362	0.60	96
1976	11958	5262	72	5334	0.45	99
1977	7265	2357	55	2412	0.33	99
1978	8602	2962	258	3220	0.37	90
1979	8632	3437	29	3466	0.40	99
1980	8997	3700	320	4020	0.45	91
1981	9528	4389	163	4552	0.48	96
1982	9829	4521	126	4647	0.47	97
1983	8993	3262	56	3318	0.37	99
MEANS STANDARD DEVIATIONS N'S:						
53-57	4533.6	1507.4	239.0	1746.4	0.39	85
S.D.	2036.4	438.0	47.2	470.9	0.10	1
N	5	5	5	5	5	4
58-62	4573.2	2254.2	341.8	2596.0	0.57	86
S.D.	493.5	398.6	57.2	396.5	0.02	1
N	5	5	5	5	5	5
63-67	8237.2	4189.4	406.8	4596.2	0.56	91
S.D.	1649.4	1047.7	151.2	1176.0	0.04	1
N	5	5	5	5	5	5
68-72	11519.2	3972.4	383.0	4355.4	0.38	90
S.D.	2818.1	886.4	188.0	997.0	0.03	2
N	5	5	5	5	5	5
73-77	10420.6	4111.2	160.2	4271.4	0.41	97
S.D.	1913.8	1621.9	127.2	1618.6	0.05	1
N	5	5	5	5	5	5
78-82	9117.6	3801.8	179.2	3981.0	0.44	95
S.D.	545.6	654.0	113.7	635.5	0.02	2
N	5	5	5	5	5	5
69-82	10577.1	4048.4	246.4	4294.8	0.41	94
S.D.	1989.6	1039.3	176.2	1062.4	0.02	1
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Sports harvest of Atlantic salmon in Humber River, 1953-83.

RIVER: HUMBER RIVER CODE: 44024300

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	3715	1260	149	1409	0.38	.
1954	4161	876	137	1013	0.24	90
1955	2177	1376	138	1514	0.70	86
1956	6953	1076	110	1186	0.17	93
1957	2637	1778	89	1867	0.71	92
1958	3350	1686	194	1880	0.56	90
1959	3681	1996	187	2183	0.59	90
1960	3511	1938	178	2116	0.60	92
1961	3639	1867	134	2001	0.55	94
1962	4017	2390	108	2498	0.62	95
1963	5348	3898	160	4058	0.76	94
1964	7222	4681	268	4949	0.69	94
1965	6551	3951	193	4144	0.63	96
1966	8842	3999	322	4311	0.49	92
1967	5317	2252	160	2412	0.45	96
1968	5104	2168	96	2264	0.44	96
1969	9690	4459	478	4937	0.51	82
1970	11785	2785	526	3311	0.28	89
1971	9027	3949	375	4324	0.48	88
1972	9413	3961	219	4180	0.44	95
1973	9612	3411	304	3715	0.39	93
1974	8976	2742	107	2849	0.32	97
1975	9611	6147	114	6261	0.65	96
1976	10489	5102	61	5163	0.49	99
1977	6127	2158	45	2203	0.36	99
1978	7633	2722	187	2909	0.38	92
1979	7961	3343	27	3370	0.42	99
1980	8292	3512	303	3815	0.46	92
1981	8701	4132	153	4285	0.49	96
1982	9737	4287	95	4382	0.50	98
1983	7746	3110	47	3157	0.41	99
MEANS STANDARD DEVIATIONS N'S:						
53-57	3928.6	1273.2	124.6	1397.8	0.36	91
S.D.	1869.7	339.9	24.5	326.6	0.10	1
N	5	5	5	5	5	4
58-62	3639.6	1975.4	160.2	2135.6	0.59	92
S.D.	247.3	259.4	37.4	233.1	0.01	1
N	5	5	5	5	5	5
63-67	6656.0	3754.2	220.6	3974.8	0.60	94
S.D.	1467.5	898.6	71.8	940.7	0.06	1
N	5	5	5	5	5	5
68-72	9003.8	3464.4	338.8	3803.2	0.42	90
S.D.	2428.1	950.4	179.6	1038.0	0.05	2
N	5	5	5	5	5	5
73-77	8963.0	3912.0	126.2	4038.2	0.45	97
S.D.	1674.3	1666.4	103.7	1665.3	0.06	1
N	5	5	5	5	5	5
78-82	8264.8	3599.2	153.0	3752.2	0.45	95
S.D.	475.8	632.4	103.6	620.8	0.02	1
N	5	5	5	5	5	5
69-82	9003.9	3765.0	213.9	3978.9	0.44	94
S.D.	1336.8	1054.9	160.8	1053.6	0.03	1
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 19

Sports harvest for Atlantic Salmon in Serpentine River, 1953-83.
RIVER: SERPENTINE RIVER (COAL RIVER) CODE: 44020900

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	143	91	59	150	1.05	.
1954	184	72	31	103	0.56	75
1955	56	77	39	116	2.07	65
1956	229	160	107	267	1.17	42
1957	266	136	115	251	0.94	58
1958	239	154	72	226	0.95	65
1959	459	175	138	313	0.68	53
1960	416	127	92	219	0.53	66
1961	639	119	103	222	0.35	55
1962	613	380	187	567	0.92	39
1963	330	176	105	281	0.85	78
1964	450	351	322	673	1.50	35
1965	776	249	169	418	0.54	67
1966	489	281	107	388	0.79	70
1967	449	103	50	153	0.34	85
1968	642	209	28	237	0.37	79
1969	875	182	49	231	0.26	81
1970	868	138	40	178	0.21	82
1971	834	130	7	137	0.16	95
1972	1088	116	5	121	0.11	96
1973	754	95	41	136	0.18	74
1974	654	71	18	89	0.14	84
1975	457	66	7	73	0.16	91
1976	475	133	7	140	0.29	90
1977	296	119	10	129	0.44	93
1978	667	237	71	308	0.46	63
1979	384	76	2	78	0.20	99
1980	329	169	15	184	0.56	84
1981	408	179	8	187	0.46	95
1982	576	165	22	187	0.32	89
1983	470	81	5	86	0.18	.
MEANS STANDARD DEVIATIONS N'S:						
53-57	175.6	107.2	70.2	177.4	1.01	58
S.D.	81.3	38.8	38.7	76.7	0.14	6
N	5	5	5	5	5	4
58-62	473.2	191.0	118.4	309.4	0.65	55
S.D.	162.3	108.0	45.2	149.3	0.13	5
N	5	5	5	5	5	5
63-67	498.8	232.0	150.6	382.6	0.77	66
S.D.	166.1	95.7	104.7	192.8	0.19	9
N	5	5	5	5	5	5
68-72	861.4	155.0	25.8	180.8	0.21	86
S.D.	158.5	39.0	19.6	52.9	0.04	3
N	5	5	5	5	5	5
73-77	527.2	96.8	16.6	113.4	0.22	85
S.D.	179.3	29.2	14.4	30.4	0.04	4
N	5	5	5	5	5	5
78-82	472.8	165.2	23.6	188.8	0.40	87
S.D.	142.4	57.7	27.5	81.4	0.05	7
N	5	5	5	5	5	5
69-82	618.9	134.0	21.6	155.6	0.25	86
S.D.	240.6	49.0	20.7	63.5	0.03	3
N	14	14	14	14	14	14

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 20

Sports harvest for Atlantic salmon in Fox Island River, 1953-83.

RIVER: FOX ISLAND RIVER (FOX BROOK) CODE: 43019200

YEAR	EFFORT ROD DAYS	GRILSE <2.7KG	SALMON >2.7KG	TOTAL CATCH	CUE	PERCENT GRILSE
1953	217	38	22	60	0.28	.
1954	250	46	28	74	0.30	58
1955	284	66	15	81	0.29	75
1956	589	156	62	218	0.37	52
1957	541	279	87	366	0.68	64
1958	469	78	143	221	0.47	66
1959	335	33	54	87	0.26	59
1960	385	89	53	142	0.37	38
1961	233	44	23	67	0.29	79
1962	263	148	39	187	0.71	53
1963	220	132	32	164	0.75	82
1964	490	207	55	262	0.53	71
1965	292	68	23	91	0.31	90
1966	198	29	4	33	0.17	94
1967	352	54	57	111	0.32	34
1968	389	64	38	102	0.26	59
1969	32	18	8	26	0.81	89
1970	26	3	1	4	0.15	95
1971	77	12	3	15	0.19	50
1972	76	2	6	8	0.11	67
1973	117	17	3	20	0.17	40
1974	285	51	47	98	0.34	27
1975	135	13	9	22	0.16	85
1976	.	.	.	.	.	.
1977	.	.	.	.	.	.
1978	.	.	.	.	.	.
1979	.	.	.	.	.	.
1980	.	.	.	.	.	.
1981	164	62	2	64	0.39	.
1982	188	43	8	51	0.27	89
1983	204	29	4	33	0.16	91
MEANS STANDARD DEVIATIONS N'S:						
53-57	376.2	117.0	42.8	159.8	0.42	61
S.D.	174.8	102.0	30.6	131.8	0.09	4
N	5	5	5	5	5	4
58-62	337.0	78.4	62.4	140.8	0.42	63
S.D.	94.9	45.3	46.8	65.0	0.07	4
N	5	5	5	5	5	5
63-67	310.4	98.0	34.2	132.2	0.43	77
S.D.	117.4	71.8	22.3	86.4	0.08	8
N	5	5	5	5	5	5
68-72	120.0	19.8	11.2	31.0	0.26	73
S.D.	152.3	25.6	15.2	40.6	0.04	10
N	5	5	5	5	5	5
73-77	179.0	27.0	19.7	46.7	0.26	54
S.D.	92.2	20.9	23.9	44.5	0.07	24
N	3	3	3	3	3	3
78-82	176.0	52.5	5.0	57.5	0.33	89
S.D.	17.0	13.4	4.2	9.2	0.06	.
N	2	2	2	2	2	1
69-82	122.2	24.6	9.7	34.2	0.28	73
S.D.	82.4	21.8	14.3	30.9	0.04	12
N	9	9	9	9	9	8

PERCENT GRILSE FIGURES ARE CALCULATED USING LAGGED GRILSE VALUES
. IN THE ABOVE TABLE INDICATES NO DATA FOR THAT YEAR

Table 21

Spawning escapements (1978-82) for rivers in Areas K and L using two exploitation rates; these are compared to spawning requirements (Porter and Chadwick, 1983).

River	Exploitation rate 20%	Exploitation rate 40%	Additional* fish released	Required spawners	Max.	Maximum** est. of escapement	Minimum*** est. of escapement
Area K							
Little Codroy	276	104	488	463	+	+301	+129
Grand Codroy	4,556	1,709	2,964	3,511	+	+4,009	+1,162
Highlands				601			
Crabbes	1,680	630	1,642	2,345	+	+977	-73
Barachois	752	282	1,829	1,350	+	+1,231	+761
Robinsons	2,844	1,067	1,546	1,752	+	+2,638	+861
Fischells	932	350	937	2,137	-	-268	-850
Flat Bay	1,324	497	1,329	2,904	-	-251	-1,078
Lt. Barachois	516	194	588	759	+	+345	+23
Southwest	1,940	728	3,473	2,795	+	+2,618	+1,406
Harry's	2,232	837	2,856	4,911	+	+177	-1,218
Area L							
Fox Island	92	35	118	577	-	-349	-406
Serpentine	756	284	271	2,233	-	-1,202	-1,674
Cooks	-	-	-	357			
Humber	15,008	5,628	3,034	18,452	+	-458	-9,838
Hughes	-	-	-	215			

* Fish released due to season reduction and adjusted to equivalent spawning potential i.e., additional fish released = total x ratio. Slight differences may occur due to rounding-off of ratios.

** Equal to Column 2 + Column 4 - Column 5.

*** Equal to Column 3 + Column 4 - Column 5.

Table 22

Spawning escapements for rivers of Areas K and L using two exploitation rates; these are compared to spawning requirements (after Porter and Chadwick 1983).

	Exploitation rate		Additional fish released*	Required spawners	Max.	Maximum est. of escapement	Minimum est. of escapement
	20%	40%					
Little Codroy	272	102	476	463	+	+285	+115
Grand Codroy	4,524	1,697	2,791	3,511	+	+3,804	+977
Crabbes	1,496	561	1,647	2,345	+	+798	-137
Barachois	684	257	1,827	1,350	+	+1,161	+734
Robinsons	2,696	1,011	1,288	1,752	+	+2,232	+547
Fischells	868	326	937	2,137	-	-332	-874
Flat Bay	1,312	492	1,329	2,904	-	-263	-1,083
Little Barachois	488	183	569	759	+	+298	-7
Southwest & Bottom	2,044	767	3,492	2,795	+	+2,741	+1,464
Harry's	2,236	839	2,856	4,911	+	+181	-1,216
Area K	16,680	6,255	17,547	25,059	+	+9,168	-1,257
Fox Island**	196	74	127	577	-	-254	-376
Serpentine	688	258	273	2,233	-	-1,272	-1,702
Humber	14,612	5,480	2,967	18,452	-	-873	-10,005
Area L	13,336	5,001	4,830	24,682	-	-6,516	-14,851

* Fish released due to season reduction and adjusted to equivalent spawning potential (see Porter and Chadwick 1983).

** Based on angling mean catch 1981-83.